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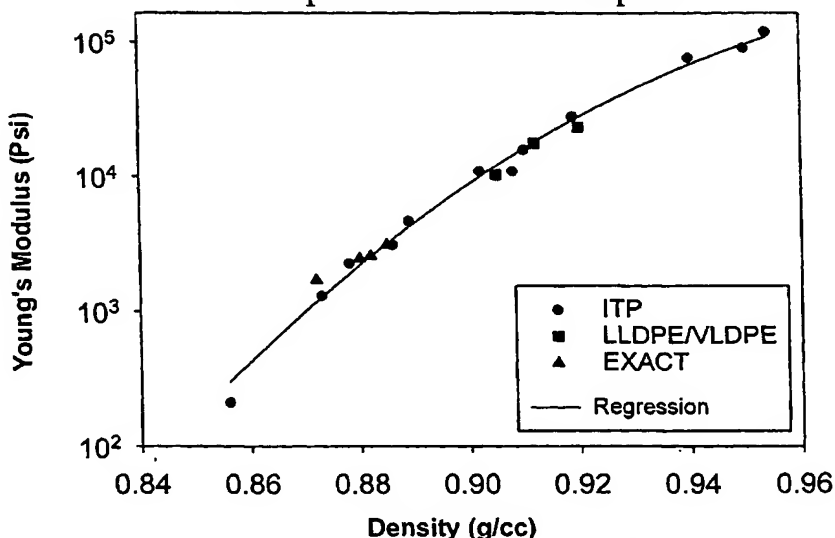
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Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: HIGH CLARITY, HIGH STIFFNESS FILMS

Modulus vs. Density of Polyethylenes

Compression Molded Plaques



$$\text{Log}(\text{Modulus}) = -130.0787 + 270.267 \cdot \text{den} - 134.832 \cdot \text{den}^2, r^2 = 0.99$$

(57) Abstract: A multi-layer heat film having at least three layers is disclosed wherein the film has high optical properties, high stiffness and desirable shrinkage in the cross direction. The inner layer, or layers, comprises at least one stiffening polymer selected from the group consisting of: low density polyethylene, linear low density polyethylene, high density polyethylene, blends thereof, polypropylene random copolymer, styrene/butadiene copolymer, polystyrene, ethylene-vinyl acetate copolymer and cyclic-olefin copolymer, provided that when more than one inner layer is present, the inner layers can be the same or different. The skin layers, which may be the same or different, comprise at least one of: low density polyethylene; a blend of low density polyethylene and linear low density polyethylene; a blend of low density polyethylene and very low density polyethylene;

polystyrene; ethylene-vinyl acetate copolymer; a blend of ethylene-vinyl acetate copolymer and linear low density polyethylene; cyclic-olefin copolymer; styrene-butadiene copolymer; or, polypropylene random copolymer, provided that the skin layers are devoid of a homogeneously branched polyethylene resin prepared with a single site catalyst. The inventive films have haze values of less than about 15%, a 2% secant modulus greater than about 50,000 psi and a cross directional shrinkage greater than 0%. The inventive films are made by a process that does not include post-extrusion bi-axial orientation.

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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B32B27/08 B32B7/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B32B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/046606 A1 (KAARTO JOHN ET AL) 29 November 2001 (2001-11-29) claims 1,18-21 page 1, paragraph 9 - paragraph 11 page 2, paragraph 18 page 2, paragraph 24 - paragraph 25 page 6, paragraph 53 page 6, paragraph 61 -page 7, paragraph 68 page 8, paragraph 72 - paragraph 77 examples A,B,C; tables 1-3 <div style="text-align: center;">--- -/-</div>	1-48

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>US 2002/127421 A1 (NAGAMATSU TATSUHIRO ET AL) 12 September 2002 (2002-09-12) claims 1,3,4 page 1, paragraph 5 page 1, paragraph 16 - paragraph 17 page 2, paragraph 28 - paragraph 33 page 3, paragraph 38 - paragraph 42 page 4, paragraph 66 - paragraph 71 examples 1,2; tables 1,2</p>	1-48
X	<p>EP 0 388 177 A (GRACE W R & CO) 19 September 1990 (1990-09-19) claims 1,4,5,8,9 page 2, column 1, line 1 - line 5 page 5, column 7, line 43 - column 8, line 54 page 6, column 9, line 2 - line 8 example 1</p>	1-48
X	<p>WO 01 10643 A (BANASZAK CHERYL M ;BUCCULO ADAM D (US); CHILDRESS BLAINE C (US); S) 15 February 2001 (2001-02-15) claims 1,5,6,8,12-14 page 7, line 29 -page 9, line 15 tables 2-5 page 19, line 6 - line 19 page 21, line 12 - line 33</p>	1-48
X	<p>EP 0 333 508 A (EXXON CHEMICAL PATENTS INC) 20 September 1989 (1989-09-20) claims 1-5,10 page 3, line 5 - line 15 page 3, line 46 -page 4, line 3 examples 1,2; table 2</p>	1-48
X	<p>US 6 187 397 B1 (GRANGETTE MICHEL) 13 February 2001 (2001-02-13) cited in the application claim 1 column 1, line 51 -column 2, line 27 example 1 column 3, line 16 - line 26</p>	1-48
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X	WO 98 52749 A (REGNIER FRANCOIS J F ;DOW CHEMICAL CO (US)) 26 November 1998 (1998-11-26) claims 1,5,8,9,14 page 4, line 17 -page 5, line 16 examples 1,2; tables 1,2 ---	1-48
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